



October 22, 1991

Mr. Ronald B. Kenyon
International Technology Corporation
7 Cragwood Road
Avenel, New Jersey 07001

Re: Cortlandt Site

Dear Ron:

Enclosed are the following materials relating to our property in Cortlandt, New York:

1. Analytical results of samples taken by NYDEC on August 19, 1982.
2. Analytical results of samples taken by the Westchester County Health Department on February 1, 1983, February 2, 1983, and March 15, 1983.
3. Analytical results of samples taken by NYDEC on May 15, 1984.
4. May 21, 1991 letter from Molly Gallegher (NYDEC) to Les Skoski (Ebasco).
5. Table of Contents and Section 1.0 from Draft Field Sampling Plan prepared by Ebasco, April 1991.

Each of the analytical results includes a crude map that purports to show where the samples analyzed were taken. The maps that accompany the 1982 results and the Health Department results appear to be relatively straightforward. The 1984 results include a memorandum prepared by the NYDEC employee that supervised the sampling. The memo includes a table that describes generally where each sample was taken and the analysis requested. The map that accompanies the 1984 samples is difficult to reconcile with the table.

Mr. Ronald B. Kenyon
October 22, 1991
Page 2

Based on a review of our file, it appears that Magma Metals had an electro-plating scrubbing operation and a degreasing operation on the site not later than 1981 (the Health Department and the NYDEC ordered Magma Metals to remove all industrial wastes in the building, the settling tank, and the leaching pits in July of 1979). It also appears that the TCE used in the degreaser was stored in an above grade storage tank somewhere near the parking lot.

I hope this information assists you in developing a sampling program. If you need further information, please do not hesitate to call me.

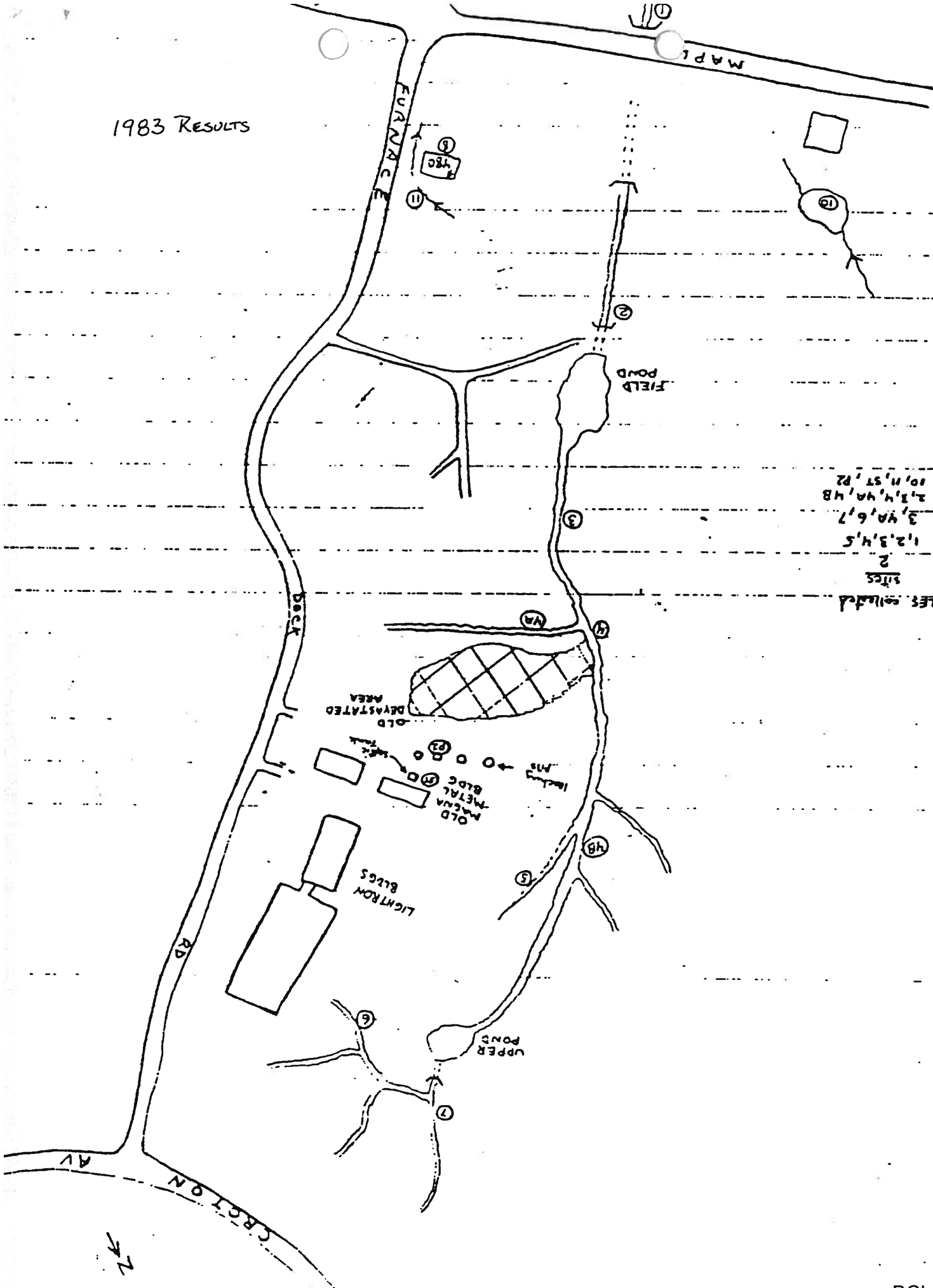
Sincerely,

A handwritten signature in dark ink, appearing to read "Michael J. Baker". The signature is fluid and cursive, with the last name "Baker" being more prominent.

Michael J. Baker
Asset Manager

Enclosures

1983 RESULTS



SAMPLES collected
 12/29/82 2
 2/1/83 1, 2, 3, 4, 5
 2/2/83 3, 4, 6, 7
 3/15/83 2, 3, 4, 4A, 4B
 10/11/85 1, 2

Westchester County Health Department
Sampling Report

Re: File Furnace Brook,
Cortlandt (T)

Water results for parameters
1,2,3 in ppb 4-12 in ppm
and 3.4 in mg/l/inch

Soil results for parameters

Date of Sampling: 2/1/83

Weather on:

Day of sampling Fair

Day previous Fair + rain 1/30

SAMPLING LOCATIONS

1 MAPLE AVE

2 FIELD POND OUTLET

3 100' ABOVE FIELD POND

4 WHERE OLD DEWASTATED AREA
INTERSECTS BROOK

5 IN TRIBUTARY 30' ABOVE
CONFLUENCE WITH BROOK

Form TC-1

Sample
Type

WATER

"

"

"

"

PARAMETERS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|--------------------------|------|------|-----|------|------|------|-------|------|------|------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
| TCE | 1.5 | <1 | .33 | .02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .08 | <.01 | 24500 | 24500 | 24500 | 24500 | 24500 | 24500 | 24500 | 24500 |
| Cis 1,2 Dichloroethylene | 20 | <1 | .40 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 4750 | 4750 | 4750 | 4750 | 4750 | 4750 | 4750 | 4750 |
| 1,1,1 Trichloroethane | 8 | <1 | .21 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .05 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Fe | <.01 | <.01 | .32 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .08 | <.01 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Cu | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Zn | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Ni | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Cd | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Cr | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Pb | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Mn | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Total Coli | <.01 | <.01 | .28 | <.02 | <.05 | <.01 | <.002 | <.01 | <.01 | <.01 | .06 | <.01 | 430 | 430 | 430 | 430 | 430 | 430 | 430 | 430 |

Re: File Furnace Brook
Corlandt (?)

Water results for parameters
1, 2 + 3 in ppb

Soil results for parameters
1, 2 + 3 in $\mu\text{g/kg}$

Date of Sampling: 3/15/83

Weather on:

Day of sampling FAIR

Day previous FAIR

SAMPLING LOCATIONS

1-21 2104

Chester County Health Department
Sampling Report

Re: File Furnace Brook
Cortlandt (7)

Water results for parameters
1,2,3,4,6,8,10,11,12,13,14,15,16,17,18,19,20,21,22
Soil results for parameters

Date of Sampling: 2/2/83

Weather on:

Day of sampling Rain
Day previous Fair

SAMPLING LOCATIONS

3 100' Above FIELD POND

4A TRIBUTARY PARALLEL TO AND SOUTH OF
OLD DEWASTATED AREA, OFF CENTER OF AREA

6 TRIBUTARY BEHIND LIGHTHOUSE WAREHOUSE

7 BROOK ABOVE ALL LIGHTHOUSE SITE DRAINAGE

Form TC-1

Sample
Type

Water

"

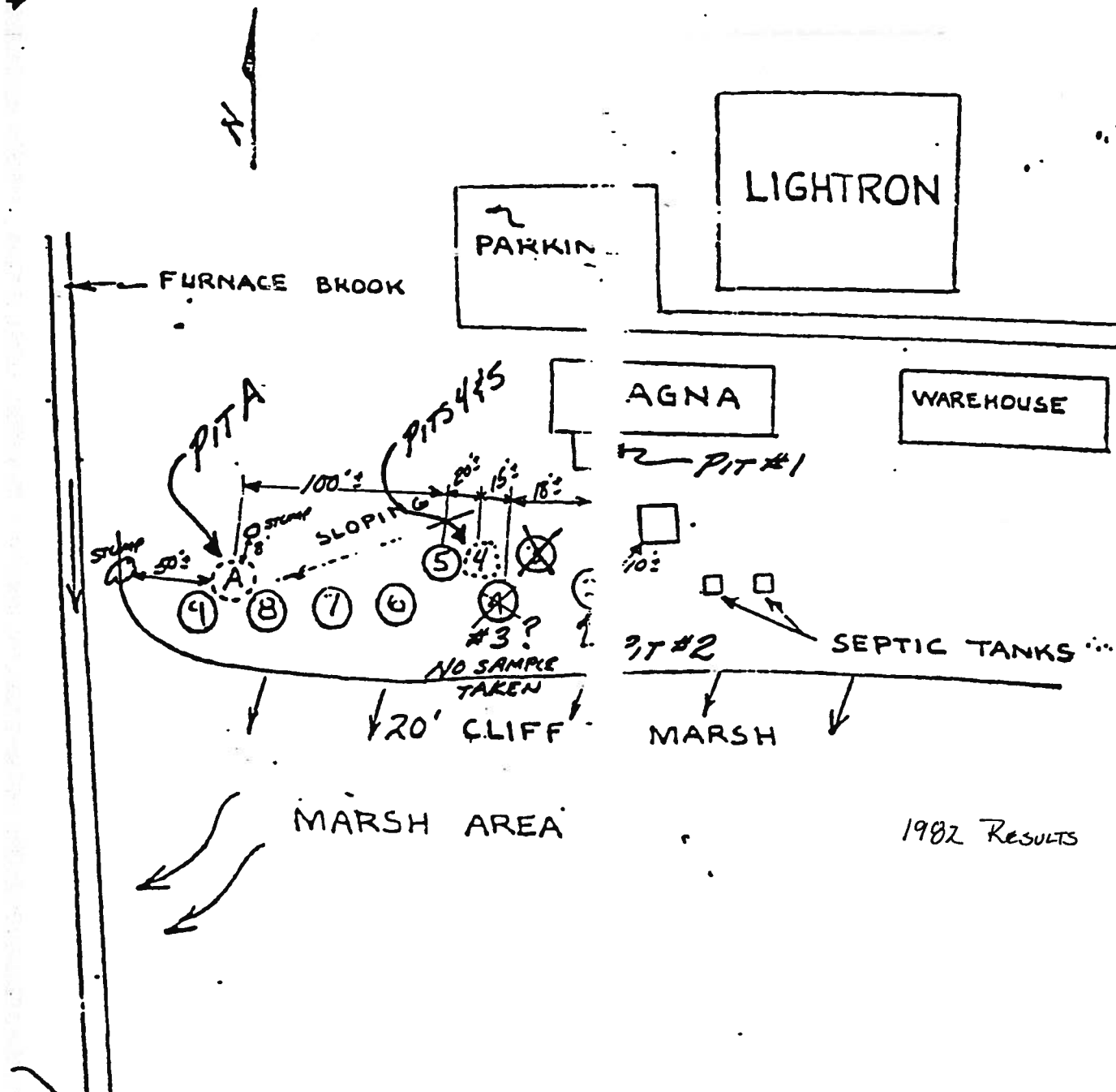
"

"

PARAMETERS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|--------------------------|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| TCE | 15 | 43 | 30 | 09 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 30 | 30 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Cis 1,2 Dichloroethylene | 7 | 41 | 34 | 10 | 05 | 01 | 002 | 01 | 01 | 01 | 03 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1,1,1 Trichloroethane | 4 | 41 | 70 | 02 | 05 | 01 | 002 | 01 | 01 | 01 | 52 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Fe | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Cu | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Zn | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Ni | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Cd | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Cr | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Cy | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Pb | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Mn | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Fecal Coli | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Total Coli | 11 | 41 | 58 | 07 | 05 | 01 | 002 | 01 | 01 | 01 | 07 | 40 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |

EXHIBIT A - APPROXIMATE LOCATION FROM WHICH
SAMPLES WERE TAKEN ON 8/19/82



MAGNA METALS SITE SKETCH

WESTCHESTER CO., CORTLANDT, N.Y.

(7-7-B1, NO SCALE, RET.)

NEW YORK STATE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

HAZARDOUS WASTE COMPLIANCE TEAM

Job No. J-964 Date Sept. 20, 1982

LABORATORY REPORT

Client **William F. Cosulich Assoc.**
20 W. Ridgewood Ave.
Ridgewood, NJ 07450
Att: Jim Kelly

Sample(s) Reference

Sludge Pits on
ISC Properties

ate samples (received) collected by General Testing 3/19/82

ISC

ANALYTICAL RESULTS

(mg/l unless stated otherwise)

.O. # _____

Sample Description

2 1* 3* 4* 5*
Pit 1 Pit A Pit 2 Pit 4 Pit 5

ate(s)
ime(s)

| | | | | | |
|--------------------|-------|--------|--------|--------|--------|
| pH ** | 9.4 | | 8.2 | 6.4 | 6.9 |
| Cyanide | .42 | 54 | 2.3 | .91 | .38 |
| Chlorides | 62 | 4 | 44 | 9 | 3 |
| Phenolics | .009 | .015 | .015 | .010 | .012 |
| Sulfates | 42 | <5 | 134 | 182 | <10 |
| Nitrates | .67 | 12 | 1.29 | 4.5 | .94 |
| Cadmium | 0.03 | <0.025 | <0.025 | <0.025 | <0.025 |
| ✓ Chromium., Total | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chromium, Hex | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| ✓ Copper | 23.9 | 176 | 38.4 | 0.60 | |
| Iron | 0.90 | <0.05 | <0.05 | <0.05 | <0.82 |
| Lead | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Manganese | 0.04 | 1.52 | 1.73 | 1.9 | |
| ✓ Nickel | 4.2 | 26.6 | 94 | 8.3 | |
| Zinc | 0.42 | 74 | 81 | 14 | |

* Analysis on EP Toxicity Extract; F
Federal Register, Vol. 45, No. 98,

cedures in accordance with
v 19, 1980, Rules & Regulations

** Analyses on 10% solution w/v

Analytical procedures in accordance with Standard Methods for
the Examination of Water and Wastewater, 14th Edition and
Methods for Chemical Analysis of Water and Wastes, EPA.
(<) indicates lowest detectable concentration with procedure
used

Richard ...
Laboratory Director

Job No. J-964

Date

Sept. 20, 1982

LABORATORY REPORT

William F. Cosulich Assoc.
20 W. Ridgewood Ave.
Ridgewood, NJ 07450
Att: Jim Kelly

Sample(s) Reference

Quality Control Report

te samples () received (x) collected by General Testing 8/19/82

ANALYTICAL RESULTS

(mg/l unless stated otherwise)

| Sample Description | Duplicates | | EPA Standard Recovery % | S p i k i n g | | |
|--------------------|----------------------|----------------------|----------------------------------|---------------------|-------------------------|---------------|
| | 1st Value mg/l | 2nd Value mg/l | | Amt. Added mg | Amt. Recovered mg | Recovery % |
| Date(s) | | | | | | |
| Time(s) | | | | | | |
| Chlorides | 3 | 3 | 107 | 15.00 | 15.16 | 101 |
| Sulfates | 45 | 38 | 84 | 20 | 21.5 | 108 |
| Nitrates | .94 | .96 | 101 | 1.00 | 1.09 | 109 |
| Cadmium | <0.025 | <0.025 | 100 | 0.05 | 0.05 | 100 |
| Chromium Tot. | <0.05 | <0.05 | 93 | 0.05 | 0.05 | 100 |
| Copper | 0.60 | 0.60 | 104 | 0.60 | 0.49 | 82 |
| Iron | 0.84 | 0.82 | 97 | 0.40 | 0.43 | 108 |
| Lead | <0.1 | <0.1 | 100 | 0.1 | 0.1 | 100 |
| Manganese | 1.9 | 1.9 | 94 | 0.04 | 0.04 | 100 |
| Nickel | 8.3 | 7.8 | 102 | 0.60 | 0.53 | 88 |
| Zinc | 14.0 | 14.0 | 98 | 0.05 | 0.05 | 100 |

Analytical procedures in accordance with Standard Methods for the Examination of Water and Wastewater, 14th Edition and Methods for Chemical Analysis of Water and Wastes, EPA.

(<) indicates lowest detectable concentration with procedure used

Richard J. Kelly

Laboratory Director

GENERAL TESTING CORP.
CHAIN OF CUSTODY RECORD

Sampling Place: LIGHTKON
FINNAGE DOCK ROAD PEEPSKILL NY.
 Street City State

Sample Source: _____ Producer _____ Hauler _____ Disposal Site _____
 _____ Other _____

Shipper Name: _____

Shipper Address: _____
 Street City State Zip

Shippers Telephone # () _____

Collector's Name: RICHARD SCHEIBLE ; [Signature]
 Print Signature

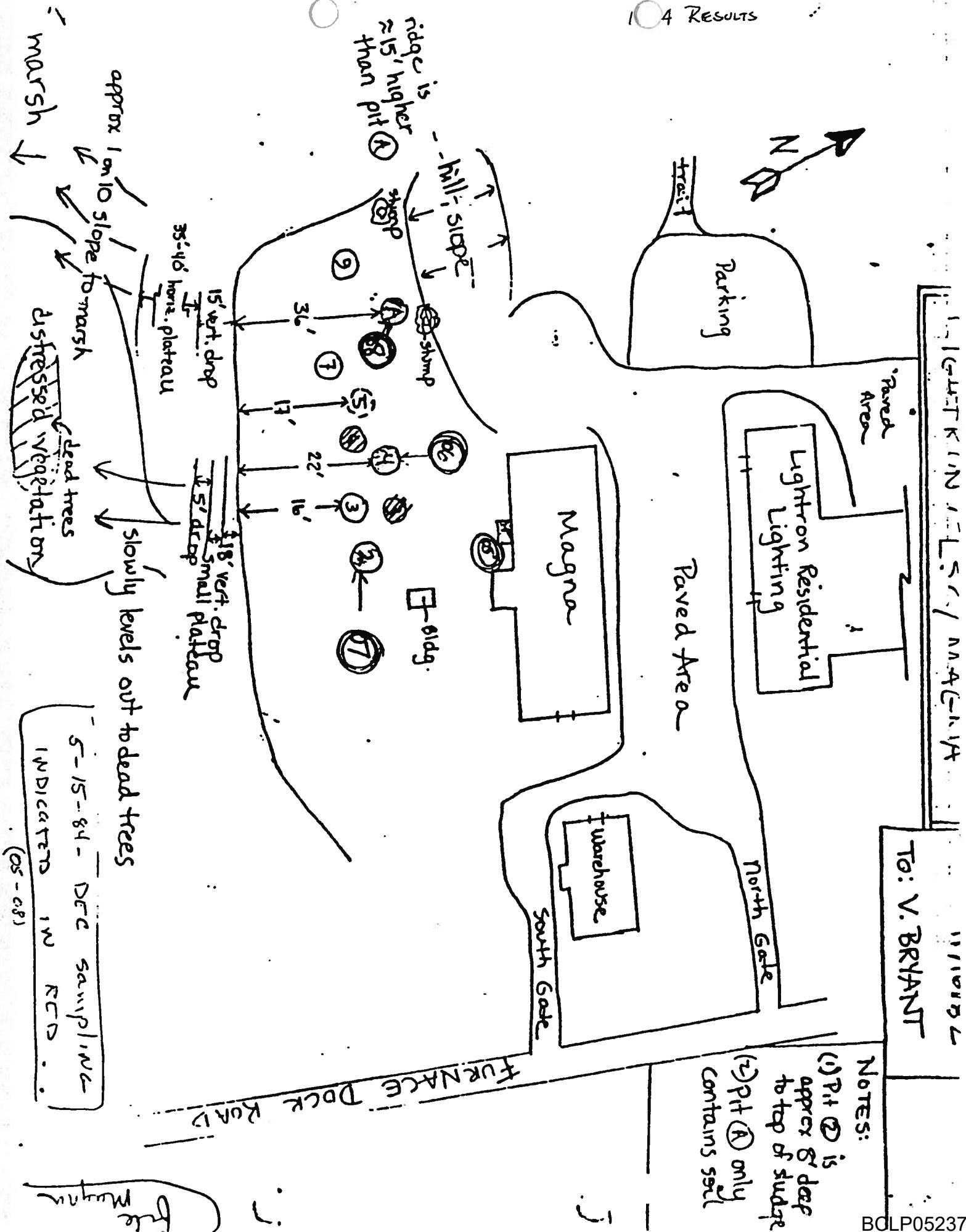
Field Information: Clear, 80°C

| Relinquished by: | Received by: | Date/Time |
|------------------|----------------|-----------|
| 1. sign. _____ | 1. sign. _____ | / |
| for _____ | for _____ | / |
| 2. sign. _____ | sign. _____ | / |
| for _____ | for _____ | / |
| 3. sign. _____ | sign. _____ | / |
| for _____ | for _____ | / |

Received for Laboratory by: _____

Method of Shipment: _____

| Sample | Sample Location | Date | Time | Sample Type | Number of Containers |
|---------------------|---------------------------|---------|-------|----------------|---|
| A MANHOLE COVER (1) | STUMP - XI X 45' - 50' | 8/19/82 | 11:00 | COMPOSITE 5 | 1 TEFLOON SAND |
| IT #5 (5) | duplicate for DEC | 8/19/82 | 11:46 | COMPOSITE 5 | 2 TEFLOON SAND - 1 for DEC |
| IT #4 (4) | | 8/19/82 | 12:00 | COMPOSITE 5 | 1 TEFLOON SAND |
| IT #2 (3) | | 8/19/82 | 12:15 | COMPOSITE 5 | 1 TEFLOON SAND |
| IT #1 (2) | WATER ONLY 40.5" DEEP | 8/19/82 | 12:50 | GPAB SAMPLES | 2 TEFLOON } DEC TACK 2 PLASTIC } 1 SET |
| | | | | | |
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New York State Department of Environmental Conservation

M E M O R A N D U M

TO: File
 FROM: Todd Ghiosay
 SUBJECT: ISC/Magna Metal Resampling, Cortlandt (T), Westchester Co.
 DATE: June 5, 1984

SAMPLING TRIP REPORT
 DIVISION OF ENVIRONMENTAL ENFORCEMENT

ENFORCEMENT CATEGORY: Inactive

FIELD UNIT: White Plains

SAMPLING DATE: May 15, 1984

1. Sampling Locations: (see attached sketch of site)
2. Sample Description: (see sample table)
3. Laboratory Receiving Samples: Versar, 6850 Versar Center,
P.O. Box 1549, Springfile, VA
4. Sample Dispatch Data:

Location sent from: White Plains DEC Office

Airbill Number: 735 300 683

Date and Time Sent: May 16, 1984, 12:00 noon.

Sent by: Todd Ghiosay, signed out by Bill Rubin

5. Sampling Personnel:

| <u>Name</u> | <u>Organization</u> | <u>Duties on Site</u> |
|---------------|----------------------|---------------------------------|
| Todd Ghiosay | NYSDEC, White Plains | Sample, collection notetaker |
| Terri Gerrish | NYSDEC, White Plains | Sample, collection |
| Wesley Gamble | NYSDEC, Albany Core | Sample, collection notetaker |

6. Safety Requirements:

* Latex gloves (for sludge samples)

- * Rubber boots (for water samples)
- * Nitrile gloves (for water samples)
- * Decontamination: solution of alconox and water scrub and rinse boots and gloves

7. General Information and Observation:

- ° Arrived on site at 1:30 p.m., sampling event completed by 8:00 p.m.
- ° Sample containers

| <u>Designated Letter</u> | <u>Container Type</u> | <u>Preservative</u> |
|--------------------------|------------------------|----------------------------|
| A | 16 oz. brown glass jar | None |
| B | 250 ml plastic | NaOH to pH >12 |
| C | 250 ml plastic | H NO ₃ to pH <2 |
| D | 250 ml plastic | None |
| E | 40 ml VOA vials | None |
| E Duplicate | 40 ml VOA vials | None |

- ° Weather was breezy with temperatures in the high sixties. Partly sunny in the afternoon changing to overcast skies later in the day.
- ° Recent bulldozing and land clearing took place in a small area west of the old Magna Metals building and in a much larger section on the northern end of the property. A Baker properties representative told me a records warehouse is to be constructed on the northern portion of the property.
- ° T. Gerrish noted that the area near the distribution basin (pit 1) had been disturbed since her visit in 1982. The basin is now covered by slabs of concrete.
- ° While walking Furnace Brook to find sampling points, small amounts of oily materials were observed on the surface of some of the smaller tributaries flowing into Furnace Brook. Small amounts of oil liquids were also observed in the marsh area.
- ° All sample containers were received from Versar accompanied by an information sheet indicating the cleaning procedure used by Versar.
- ° All sludge samples were obtained using small diameter stainless steel augers attached to stainless steel extensions. Each auger tip was cleaned or rinsed in the following order: (a) aslconox and water, (b) tap water, (c) hexane, (d) acetone, (e) alxonox and water, (f) tap water, (g) distilled water.

- ° All water samples were collected directly into the appropriate jar, then preservatives added immediately.
- ° All sediment samples were collected using a pre-cleaned polyethylene scoop.
- ° Field pH was taken with pH papers, and therefore is very approximate.

9. Report completed by Todd Ghiosay on 5/23/84.

| <u>Sample Number</u> | <u>Sampling Point</u> | <u>Matrix</u> | <u>Sample Description</u> | <u>Analysis Requested</u> |
|---|--|---|---|--|
| P-384-V05-01 A,B,C,D,E, E Duplicate | Upstream north of Magna Metals | -sediment (placed in Container A) -water | -sediment composed of brownish sand and silt -clear water, pH 6 | JAR A - Total Metals (7000 series) Volatiles (8240) |
| P-384-V05-02 A,B,C,D,E, E Duplicate | Mid-stream west of Magna Metals Building | -sediment (placed in Container A) -water, | -sediment composed of dark mud and decaying organic matter -clear water pH 5 | JAR B - Total cyanide (335.2) |
| P-384-V05-03 A,B,C,D,E, E Duplicate | Marsh area south west of Magna Metals Building | -sediment (placed in Container A) -water | Same as sample 02 pH 5-6 | JAR C - Total metals (7000 series) |
| P-384-V05-04 A,B,C,D,E, E Duplicate | Downstream south west of Magna Metals Building | -sediment (placed in Container A) -water | Same as sample 02 pH 5 | JAR D - alkalinity (310.1) specific conductance (120.1) pH |
| P-384-V05-05 B,C,D,E, E Duplicate | Distribution tank adjacent to old Magna Metals Building | Water | Slightly yellowish water pH 6-7 | JAR E - Volatiles (8240) |
| P-384-V05-06 A | Leaching Pit #4 | Sludge cake | Layered clay like sludge of various colors - Grey, green aquamarine, red layers - small amount of brown sand | -method (8240) -total metals (7000 series) -EP tox for metals |

| <u>Sample Number</u> | <u>Sampling Point</u> | <u>Matrix</u> | <u>Sample Description</u> | <u>Analaysis Requested</u> |
|---|-----------------------|---------------|--|----------------------------|
| P-384-VO5-07 A | Leaching Pit #2 | Sludge cake | Layered clay like sludge, green, gray red, magenta, lavender layers | Same as P-384-VO5-06 |
| P-384-VO5-08 B,C,D,E, E Duplicate | Leaching Pit A | Water | Clear water pH 6 | Same as P-384-VO5-05 |



Sample #:

P 384 V05 01 A

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 994

| PARAMETER | DETECTION LIMIT mg/kg. | SAMPLE CONCENTRATION mg/kg |
|-----------|------------------------------|----------------------------------|
| As | 0.5 | <0.5 |
| Sb | 0.5 | <0.5 |
| Se | 0.5 | <0.5 |
| Tl | 0.5 | <0.5 |
| Hg | 0.1 | <0.1 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| Be | 0.1 | <0.1 |
| Cd | 1. | <1. |
| Cr | 0.4 | 7.5 |
| Cu | 0.4 | 5.7 ^c |
| Ni | 1.5 | 30.1 |
| Ag | 0.3 | 0.30 |
| Zn | 1. | 22.3 ^c |
| | | |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982

Robert Maxfield, Lab Manager

Sample #:

P 384 105 02 A

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 995

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| As | 0.5 | 0.65 |
| Sb | 0.5 | <0.5 |
| Se | 1.† | 1.8 |
| Tl | 0.5 | <0.5 |
| Hg | 0.1 | <0.1 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| Be | 0.1 | <0.1 |
| Cd | 1. | <1. |
| Cr | 0.4 | 8.6 |
| Cu | 0.4 | 115. |
| Ni | 1.5 | 40.3 |
| Ag | 0.3 | <0.3 |
| Zn | 1. | 28.2 ^c |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

C = BLANK CORRECTED

+ = DETECTION LIMIT CHANGED DUE TO SAMPLE DILUTION

Procedures in accordance with:
Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982



Robert Maxfield, Lab Manager



Sample #:

P 384 V05 03 A

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 996

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| As | 0.5 | <0.5 |
| Sb | 0.5 | <0.5 |
| Se | 0.5 | 0.61 |
| Tl | 0.5 | <0.5 |
| Hg | 0.1 | <0.1 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| Be | 0.1 | <0.1 |
| Cd | 1. | 1.2 |
| Cr | 0.4 | 21.9 |
| Cu | 0.4 | 36.5 ^c |
| Ni | 1.5 | 56.2 |
| Ag | 0.3 | <0.3 |
| Zn | 1. | 37.3 |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982

Robert Maxfield, Lab Manager



Sample #:

P 384 V05 04 A

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 997

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| As | 0.5 | <0.5 |
| Sb | 0.5 | <0.5 |
| Se | 0.5 | <0.5 |
| Tl | 0.5 | <0.5 |
| Hg | 0.1 | <0.1 |
| | | |
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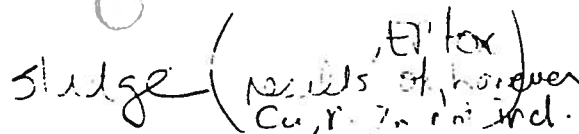
| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| Be | 0.1 | <0.1 |
| Cd | 1. | <1. |
| Cr | 0.4 | 16.9 |
| Cu | 0.4 | 100. ^c |
| Ni | 1.5 | 39.8 |
| Ag | 0.3 | <0.3 |
| Zn | 1. | 39.9 ^c |
| | | |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982

Robert Maxfield, Lab Manager



P 384 Y05 06 A

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 998

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| Be | 0.1 | <0.1 |
| Cd | 1. | 3.1 |
| Cr | 0.4 | 223. |
| Cu | 0.4 | 3690. ^c |
| Ni | 1.5 | 27500. |
| Ag | 0.3 | 0.81 |
| Zn | 1. | 8310. ^c |
| | | |
| | | |
| | | |

⁺Detection limit changed due to sample dilution.

C2 BLANK CORRECTED

[Handwritten signature]

Robert Maxfield, Lab Manager



Edge (E) box 125.215
E2, ho-254, Cu, Ni,
Zn not E2 - ashhead, 1

Sample #:

P 384 V05 07 A

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 999

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| As | 1. ⁺ | 5.0 |
| Sb | 0.5 | <0.5 |
| Se | 10. ⁺ | 13.0 |
| Tl | 0.5 | <0.5 |
| Hg | 0.1 | <0.1 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT mg/kg | SAMPLE CONCENTRATION mg/kg |
|-----------|-----------------------------|----------------------------------|
| Be | 0.1 | <0.1 |
| Cd | 1. | 1.6 |
| Cr | 0.4 | 5.7 |
| Cu | 0.4 | 15,800. ^c |
| Ni | 1.5 | 13,800. |
| Ag | 0.3 | 0.70 |
| Zn | 1. | 9500. ^c |
| | | |
| | | |
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| | | |

COMMENTS:

⁺ Detection limit changed due to sample dilution.

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
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Robert Maxfield, Lab Manager

Sample #:

P 384 V05 06 A

EP TOXICITY TEST
METALS RESULTSDATE: 7-9-84PROJECT #: 857-28LAB #: 998

| CONCENTRATION IN mg/l | | | |
|-----------------------|--------------------|--------------------------------------|---------------------|
| PARAMETER | DETECTION LIMIT | EP TOXICITY MAXIMUM CONCENTRATION | SAMPLE CONCENTRATON |
| Arsenic | 0.01 | 5.0 | 0.100 |
| Barium | 0.5 | 100.0 | <0.5 |
| Cadmium | 0.1 | 1.0 | <0.1 |
| Chromium | 0.2 | 5.0 | <0.2 |
| Lead | 0.5 | 5.0 | <0.5 |
| Mercury | 0.002 | 0.2 | <0.002 |
| Selenium | 0.01 | 1.0 | 0.220 |
| Silver | 0.01 | 5.0 | <0.01 |
| | | | |
| | | | |

Procedures in accordance with:

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982

Robert Maxfield, Lab Manager

Sample #:

P 384 V05 07 A**EP TOXICITY TEST
METALS RESULTS**DATE: 7-9-84PROJECT #: 857-28LAB #: 499

| CONCENTRATION IN mg/l | | | |
|-----------------------|--------------------|--------------------------------------|---------------------|
| PARAMETER | DETECTION LIMIT | EP TOXICITY MAXIMUM CONCENTRATION | SAMPLE CONCENTRATON |
| Arsenic | 0.01 | 5.0 | 0.037 |
| Barium | 0.5 | 100.0 | < 0.5 |
| Cadmium | 0.1 | 1.0 | < 0.1 |
| Chromium | 0.2 | 5.0 | < 0.2 |
| Lead | 0.5 | 5.0 | < 0.5 |
| Mercury | 0.002 | 0.2 | < 0.002 |
| Selenium | 0.01 | 1.0 | 0.180 |
| Silver | 0.01 | 5.0 | < 0.01 |
| | | | |
| | | | |

Procedures in accordance with:

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982

Robert Maxfield, Lab Manager

Sample #:

P 384 V05 01 C

Total
METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 1006

| PARAMETER | DETECTION LIMIT $\mu\text{g/l}$ | SAMPLE CONCENTRATION $\mu\text{g/l}$ |
|-----------|---------------------------------------|--|
| As | 10. | <10. |
| Sb | 10. | <10. |
| Se | 10. | <10. |
| Tl | 10. | <10. |
| Hg | 0.4 * | <0.4 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT $\mu\text{g/l}$ | SAMPLE CONCENTRATION $\mu\text{g/l}$ |
|-----------|---------------------------------------|--|
| Be | 1. | <1. |
| Cd | 10. | <10. |
| Cr | 4. | <4. |
| Cu | 4. | <4. |
| Ni | 15. | <15. |
| Ag | 3. | <3. |
| Zn | 10. | 21. C |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

*Detection limit changed due to sample dilution.

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
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Robert Maxfield, Lab Manager

Sample #:

P 384 YOS 02 C

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 1007

| PARAMETER | DETECTION LIMIT μg/l | SAMPLE CONCENTRATION μg/l |
|-----------|----------------------------|---------------------------------|
| As | 10. | <10. |
| Sb | 10. | <10. |
| Se | 10. | <10. |
| Tl | 10. | <10. |
| Hg | 0.2 | <0.2 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT μg/l | SAMPLE CONCENTRATION μg/l |
|-----------|----------------------------|---------------------------------|
| Be | 1. | <1. |
| Cd | 10. | <10. |
| Cr | 4. | <4. |
| Cu | 4. | <4. |
| Ni | 15. | <15. |
| Ag | 3. | <3. |
| Zn | 10. | <10. ^c |
| | | |
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| | | |

COMMENTS:

c - BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
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Robert Maxfield, Lab Manager



Sample #:

P 384 V05 03 C

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 1008

| PARAMETER | DETECTION LIMIT μg/l | SAMPLE CONCENTRATION μg/l |
|-----------|----------------------------|---------------------------------|
| As | 10. | <10. |
| Sb | 10. | <10. |
| Se | 10. | <10. |
| Tl | 10. | <10. |
| Hg | 0.2 | <0.2 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT μg/l | SAMPLE CONCENTRATION μg/l |
|-----------|----------------------------|---------------------------------|
| Be | 1. | <1. |
| Cd | 10. | <10. |
| Cr | 4. | <4. |
| Cu | 4. | <4. ^c |
| Ni | 15. | <15. |
| Ag | 3. | <3. |
| Zn | 10. | <10. ^c |
| | | |
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| | | |
| | | |

COMMENTS:

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
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Robert Maxfield, Lab Manager.

Sample #:

P 384 V05 04 C

Trace

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 1009

| PARAMETER | DETECTION LIMIT $\mu\text{g/l}$ | SAMPLE CONCENTRATION $\mu\text{g/l}$ |
|-----------|---------------------------------------|--|
| As | 10. | <10. |
| Sb | 10. | <10 |
| Se | 10. | <10. |
| Tl | 10. | <10. |
| Hg | 0.4* | <0.4 |
| | | |
| | | |
| | | |
| | | |
| | | |

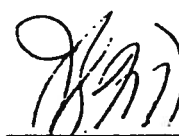
| PARAMETER | DETECTION LIMIT $\mu\text{g/l}$ | SAMPLE CONCENTRATION $\mu\text{g/l}$ |
|-----------|---------------------------------------|--|
| Be | 1. | <1. |
| Cd | 10. | 11. |
| Cr | 4. | <4. |
| Cu | 4. | 6.9 ^c |
| Ni | 15. | <15. |
| Ag | 3. | <3. |
| Zn | 10. | 17. ^c |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

* Detection limit changed due to sample dilution.

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982



Robert Maxfield, Lab Manager

Distribution tank

Sample #:

P 384 VOS OS C

Total

METALS RESULTS

DATE: 7-9-84

PROJECT #: R57-28

LAB #: 1010

| PARAMETER | DETECTION LIMIT mg/l | SAMPLE CONCENTRATION mg/l | PARAMETER | DETECTION LIMIT mg/l | SAMPLE CONCENTRATION mg/l |
|-----------|-------------------------|------------------------------|-----------|-------------------------|------------------------------|
| As | 200.* | 550. | Be | 1. | <1. |
| Sb | 10. | <10. | Cd | 10. | <10. |
| Se | 50.* | 237. | Cr | 4. | 9.2 |
| Tl | 10. | <10. | Cu | 4. | 7810. ^c |
| Hg | 0.2 | <0.2 | Ni | 15. | 610. |
| | | | Ag | 3. | <3. |
| | | | Zn | 10. | 261. |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

COMMENTS:

* DETECTION LIMIT CHANGED DUE TO SAMPLE DILUTION

C = BLANK CORRECTED

Procedures in accordance with:
Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982



Robert Maxfield, Lab Manager

PA "A" water

Sample #:

P 384 V05 08 C

T-31-2

METALS RESULTS

DATE: 7-9-84

PROJECT #: 857-28

LAB #: 1011

| PARAMETER | DETECTION LIMIT μg/l | SAMPLE CONCENTRATION μg/l |
|-----------|----------------------------|---------------------------------|
| As | 10. | <10. |
| Sb | 10. | <10. |
| Se | 50.* | 91. |
| Tl | 10. | <10. |
| Hg | 0.2 | <0.2 |
| | | |
| | | |
| | | |
| | | |
| | | |

| PARAMETER | DETECTION LIMIT μg/l | SAMPLE CONCENTRATION μg/l |
|-----------|----------------------------|---------------------------------|
| Be | 1. | <1. |
| Cd | 10. | <10. |
| Cr | 4. | <4. |
| Cu | 4. | 670. ^c |
| Ni | 15. | 508. |
| Ag | 3. | <3. |
| Zn | 10. | 1570. ^c |
| | | |
| | | |
| | | |
| | | |

COMMENTS:

*Detection limit changed due to sample dilution.

C = BLANK CORRECTED

Test Methods for Evaluating
Solid Wastes, SW-846, 2nd Edition,
USEPA, Washington, D.C. 1982



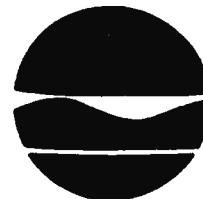
Robert Maxfield, Lab Manager

DATA SUMMARY
REPORT 857.2-28

| | acetone | trans-1,2-dichloro-ethene | trichloro-ethene | vinyl chloride | total xylenes | ethylbenzene |
|---|-----------|---------------------------|------------------|----------------|---------------|--------------|
| P-374-VOS-01-A' | ND ug/kg | ND | ND | ND | ND | ND |
| <i>intermediate sediment</i> P-374-VOS-02-A' | ND ug/kg | ND | ND | ND | ND | ND |
| <i>Marsh</i> P-374-VOS-03-A' | 190 ug/kg | 300 | 30 | ND | ND | ND |
| <i>Downstream sediment</i> P-374-VOS-04-A' | 1400 | ND | 2700 | ND | ND | ND |
| <i>Upstream</i> P-374-VOS-06-A' | ND ug/kg | ND | 680 | ND | 42 | ND |
| <i>P =</i> P-374-VOS-07-A' | ND ug/kg | ND | 2600 | ND | 7100 | 3300 |
| <i>Upstream</i> P-374-VOS-01-E' | ND ug/l | ND | ND | ND | ND | ND |
| <i>Mid stream water</i> P-374-VOS-02-E' | ND ug/l | ND | 6.6 | ND | ND | ND |
| <i>Marsh water</i> P-374-VOS-03-E' | ND ug/l | ND | 16 | ND | ND | ND |
| <i>Downstream water</i> P-374-VOS-04-E' | ND ug/l | 25 | 62 | ND | ND | ND |
| <i>Downstream (water)</i> P-374-VOS-05-E' | ND ug/l | ND | 15000 | ND | ND | ND |
| <i>P =</i> P-374-VOS-06-E' | ND ug/l | 16 | 190 | ND | ND | ND |

No Ob-E present
(DGE N/A?)

New York State Department of Environmental Conservation
Region 3
21 South Putt Corners Road
New Paltz, NY 12561-1696
914-255-5453



Thomas C. Jorling
Commissioner

May 21, 1991

Les Skoski
Ebasco Environmental
160 Chubb Ave
Lyndhurst, NJ 07071
Re: Magna Metals Site # 360003

Dear Mr. Skoski,

I enclose the following comments on the proposed Field Sampling Plan for the RI/FS activities at the subject site.

To summarize our proceedings thus far:

At our original meeting at this site we discussed the idea of an initial "screening" sampling round to up-date our information and determine the scope of the RI. Due to the ongoing consent order's specification that an RI Workplan be approved prior to its signing, review of current data, and your preference to conduct surface sampling simultaneously with well drilling, we have expanded the scope of this sampling plan so that it will serve as the Field Sampling Plan called for in the RI. This changes the purpose from "screening" to "defining the extent of contamination".

Field Sampling Plan

1-7 Although general history can be put into the RI report, sampling history and all sampling results are essential as they are the foundation of the FSP. Type of waste disposed and all 1978, and some 1983 & 1984 sampling results are missing. It should be noted that leach pits (excluding septic tank & holding tank) were emptied by suction hose in 1979. Each sampling summary table must include locations of samples, ie. in Table 1-4 sample 04 corresponds to sediment in brook 100' above pond. All of the above information is provided in the enclosed sampling summaries and Site Description & History.

1-9 The finding of 2,700 PPB Vinyl Chloride in brook sediments is not mentioned. The conclusion that "the primary emphasis of the field investigation should be on volatile organics" is correct, however, the possibility of heavy metal contamination of the soils beneath and surrounding the pits must be considered. (see 3-19)

TABLE 3-1 Samples for VOAs should not be pH adjusted.

3-14 One Soil/Sludge sample must be taken from the holding tank at the side of the building and from any other pits discovered during clearing of area. Water standing in the tanks must be sampled if it is present.

3-16 One sediment sample should be taken at the inlet of the pond.

3-18 Decant water from sediment samples before transferring to

bottles.

- 3-19 It is stated that 3 shallow samples will be taken at mapped locations and 3 at the mid-point of the slope. This will tell us if contamination from the overflow of the pits in 1979 is still present but will not find contamination leached from the pits. The pits were designed to leach into the soil and plating wastes were discharged to them for a period of possibly 29 years (assuming the age of the pits corresponds to the start of operations). To find this we need to do either borings or test pits in the expected area of discharge to a depth of at least ten feet; OR remove the pits and sample beneath them.

In reviewing the files I have found several references to a solvent storage tank which was removed from the northwest corner of the Magna Metals building. One soil sample should be taken from this area.

- 3-21 Air rotary drilling & mud rotary drilling will not be approved as field changes unless supplementary information is provided. For air, provide manufacturer's spec's describing filtration method; for mud, detail plans to mitigate its capacity to adsorb contaminants, the possibility that it may bring contamination to the hole, and the problem of its capacity to adhere to the sides of the hole.

- 3-22 How will water table elevation be determined during drilling? (By measuring water depth or observing split spoon samples?).

- 3-23 It is stated that well screens will be .010 or .020. If this is to be a field call by the site geologist based on observation of subsurface soils be sure that driller comes prepared with both sizes of screens, as well as appropriate filter pack sands.

Wells may be developed no sooner than 24 hours after installation.

- 3-24 One sample at each geologic change at each well, as well as one sample from the screened area, should be analyzed for particle size or Atterbergs Limit.

- 3-25 #5 Check samples with HNu immediately upon opening split spoon.

- 3-27 Submersible pumps are not allowed in monitoring wells.

- 3-28 #11 Bailers and wire or cord must be dedicated. Decon must be done on fresh wire or cord, bailers should be brought to the site deconned and wrapped in foil. (What cutting oils??)

- 3-32 Decon can be done with Methanol and DI water; no hexane, no acetone. Again, bailers must be dedicated. Sampling equipment such as triers, scoops, trowels are best if dedicated, but may be de-conned if necessary.

- 4-1 All field changes must be jointly approved by the Consultant Project Manager & the NYSDEC Project Manager before implementation.

Health & Safety Plan

- 5 Again, the presence of Vinyl Chloride is not mentioned.

QAPP

- 24 Again, all field changes must be jointly approved by the Consultant Project Manager & the NYSDEC Project Manager before implementation.

Comments from Fish & Wildlife are included.

Comments from QA/QC are included. Note: After reviewing 1984 samples we have found that the site was not, as we had thought, previously screened for PCB's, Dioxins and Pesticides (lab results were misleading). This means that we will need to do the full TCL on our first sampling round.

Please submit a schedule for these sampling activities with the revised FSP & QAPP.

Also enclosed you will find a Critical Path Analysis chart, graph and table. I have listed the tasks planned on this site and determined their most probable sequence. Please look carefully at the tasks assigned to "PRP" and advise me as to the accuracy of the estimated duration of these activities. If you have suggestions regarding the timing of the tasks, please let me know.

CPA Activities which have not been discussed previously include:

*Existing wells survey: The Department of Health has decided not to take on this task, but our sampling efforts will be strengthened if we can sample wells either on the site or near it before finalizing the FSP. We also need this survey for the Risk Assessment.

Habitat Based Assessment: Suggested by our Fish & Wildlife Division and explained in the enclosed documents.

*Survey Pits: We discussed the need to locate all existing pits. in order to predict contaminant migration we need to also describe the pathways of the connecting pipes and the design of the pits. (We don't really know where the leachate was designed to flow or whether the septic tanks and the leach pits are connected)

Determination of clean-up levels: We will want to define clean-up levels for each contaminant in each matrix in the schedule of work document and refine them (with guidance from our Technology Section) as data comes in. The Site Characteristics Fact Sheet needs to be completed once all analytical data has been recieved.

* to be done prior to Field Sampling.

I also wanted to note a few items that should be included in your RI report:

The registry form for the site

A topo map indicating relative location of site.

Note that filling in or removal of all pits will be included in the final remedial action.

Please call me at (914) 255-5453 if you have any questions.

Sincerely,

Molly Gallagher,
DHWR, Reg. 3

**Draft
Field Sampling Plan**

for the

**Magna Metals Site
Town of Cortlandt
Westchester County, New York**

Prepared by

EBASCO

An ENSERCH® Engineering and Construction Company

April 1991

MAGNA METALS SITE
Field Sampling Plan

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MAGNA METALS SITE
Field Sampling Plan

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1.0 INTRODUCTION

Presented herein is the Field Sampling Plan (FSP) for the RI/FS Investigation to be undertaken by Ebasco Services Incorporated (Ebasco) at the Magna Metals Site, Town of Cortlandt, New York. The purpose of the RI/FS Investigation is to gather surface water and sediment, groundwater, subsurface soil and surface soil samples to provide an adequate data base for delineation of the site contamination, performance of a risk assessment, and evaluation of remedial alternatives in a feasibility study.

The FSP will present all the procedures to be followed during all field investigation activities. Specifically, the FSP addresses :

- * Data Quality Objectives;
- * Applicable Standard Operating Procedures;
- * Responsibilities of Site Personnel;
- * Sample Analytical Program;
- * Sample Packaging and Shipment;
- * Documentation;
- * Field Sampling Program;
- * Procedures for Field Changes/Corrective Actions; and the
- * Health and Safety Plan

The Quality Assurance Project Plan establishes the structure of the quality assurance plan for each FSP; it is a generic document applicable to all field sampling activities. By using this document and consulting applicable Ebasco Field Technical Guidelines and the QA Guidance Manual, FSP site-specific Standard Operating Procedure (SOP) or QA/QC protocol has been generated. Any modifications necessary in these SOPs due to field conditions or other unforeseen situations, shall be recorded in the site logbook, documented on the appropriate Field Change Request (FCR) forms by the Field Operations Leader (FOL), and be approved by the Ebasco and NYSDEC Project Manager.

1.1 SITE LOCATION AND DESCRIPTION

The site is located in the Town of Cortlandt, Westchester County, New York near the intersection of Furnace Dock Road and Maple Avenue. Nearby towns include Peekskill, 2 miles northeast and Croton on the Hudson, 5 miles southwest. The Hudson River is located 3 miles west of the site. Road access to the site is

more than adequate as several routes are available including Route 9/9A, Bear Mountain Parkway, and the Taconic Parkway.

Locally, the site is part of a larger commercial property having several operating businesses which currently include: Con Edison and Silverman Furniture. The Croton Egg Farm is located west of the site. To the north, south and east are residential areas. Also to the north-northwest is an inactive emery mine. A wetland area is located between the site and residential area south of the site. Domestic water supply usage data is unavailable at this time and is currently being obtained by the DEC. However, it is believed that all residences are using a public water supply system. The site area can be seen in Figures 1-1 and 1-2.

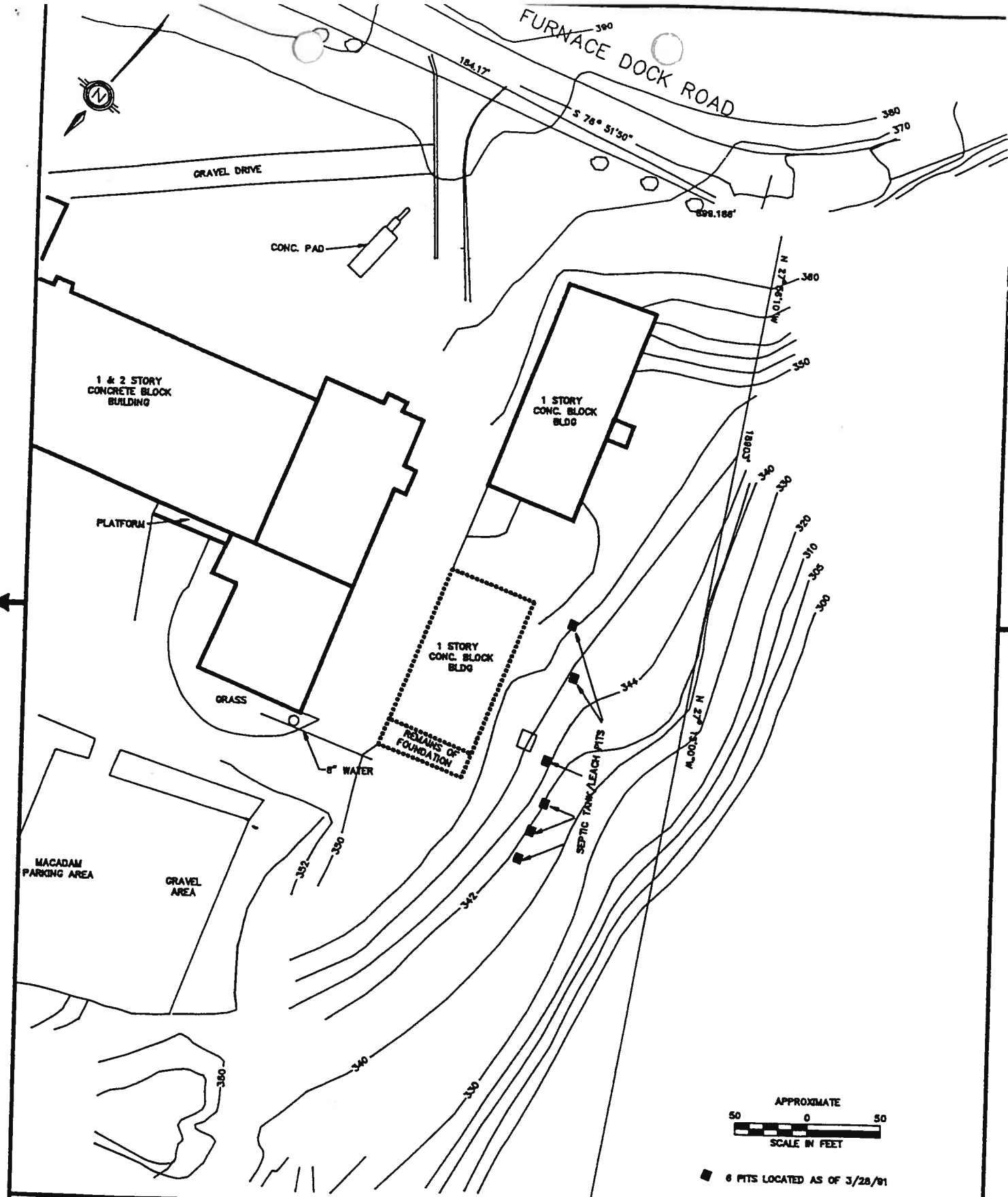
1.2 SITE HISTORY AND PREVIOUS DATA

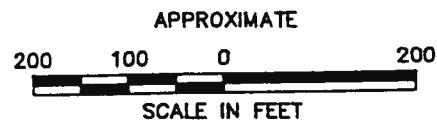
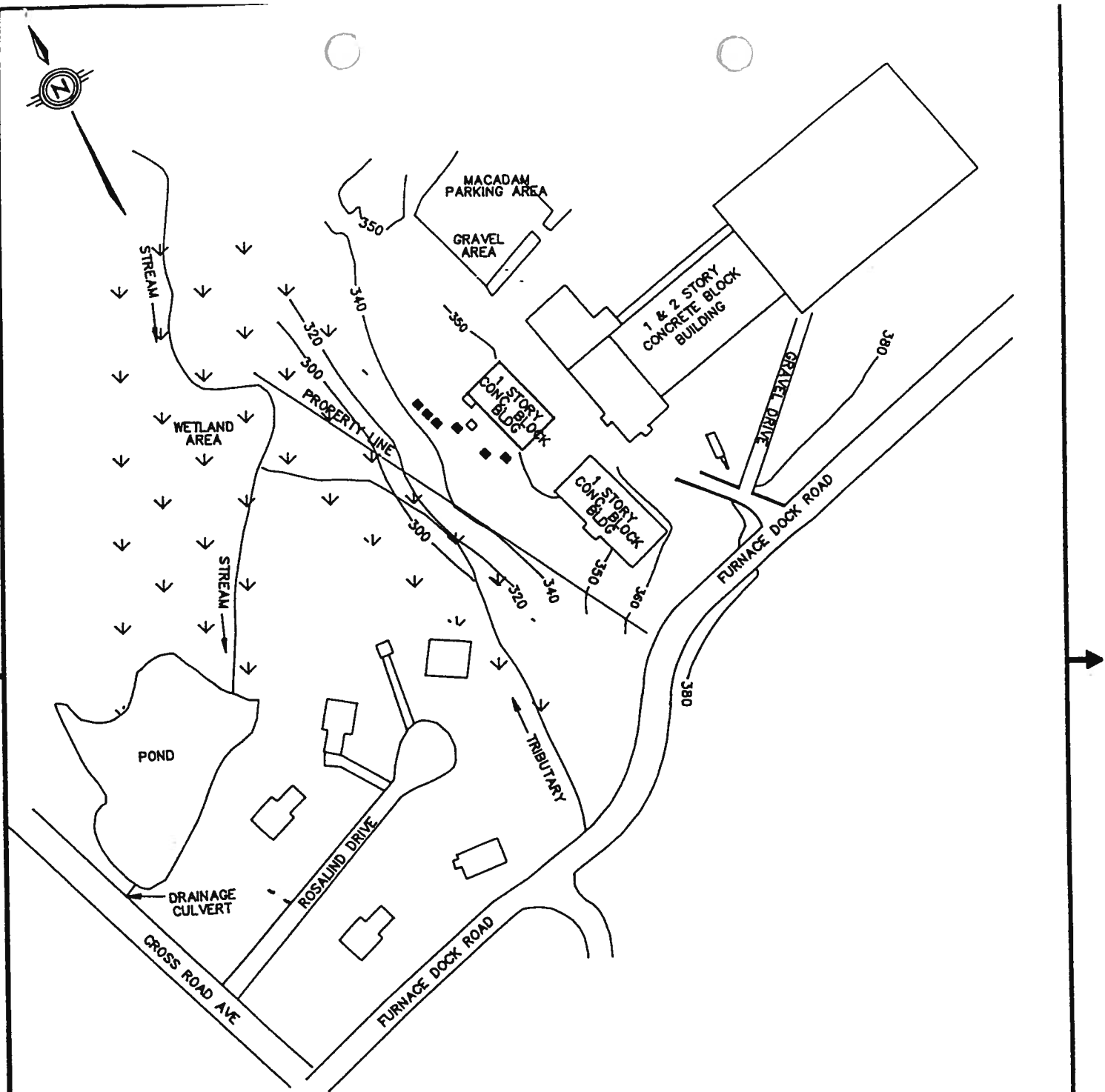
Following is a brief summary of sampling activities conducted at the site between 1982-1984. A more detailed site history from 1978-present can be found in the Magna Metals Site RI/FS Work Plan (Ebasco, to be completed 1991).

In 1982, General Testing Corporation collected and analyzed leaching pit samples for selected trace metals, cyanides, phenols, sulfate, nitrates and chlorides. The results of EP toxicity analysis (4 samples) indicated no apparent metal leaching problems. Sulfates, nitrates and chlorides were present at concentrations less than NYS Ambient Water Quality Standards of 250, 10 and 250 mg/l, respectively (TOGS 85-W-38); in addition, these inorganics generally have low toxicity and are present as background constituents.

On December 29, 1982, February 1, 2 and March 15, 1983, the Westchester County Health Department conducted additional investigations on the property and in Furnace Brook immediately to the west of the property. The results for the February 2 and March 15 sampling events were available for review. The metal analyses (Feb. 2, 1982 sampling) are summarized in Table 1-1. Except for aesthetic considerations of iron and manganese concentrations at several locations, trace metals in surface water were not found to be elevated (i.e., when compared to NYS Ambient Water Quality Standards). However, several chlorinated volatile organics were detected in Furnace Brook; of major concern were the levels of trichloroethylene (TCE) in the septic tank, a leaching pit off the septic tank and at downstream locations along Furnace Brook and an unnamed tributary.

On May 15, 1984 the NYSDEC Division of Environmental Enforcement resampled at the site, specifically for metals and volatile organic compounds (VOAs). Sludge, sediment and/or surface water samples were collected at four locations along the Brook/tributary, the septic tank, and three sludge pits. The water and sediment/sludge sample results are summarized in Tables 1-2, 1-3, and 1-4. By comparing sediment/sludge sample





SURFACE FEATURES FROM
WESTCHESTER COUNTY, DEPARTMENT
OF PLANNING AERIAL PHOTOGRAPH, SPRING 1990

TOPOGRAPHIC INTERPRETATION
FROM NYSDEC, 1983

■ 6 TANKS/PITS LOCATED AS OF 3/28/91

| | | | | | | |
|------------------------------|--|---------|--|-------------------|--|------------------------------------|
| EBASCO SERVICES INCORPORATED | | | | ISC PROPERTIES | | LIGH 2501.001 FIGURE 1-2 |
| DEPT 940 | | DR J.R. | | MAGNA METALS SITE | | |
| DATE | | CH | | EXTENDED SITE MAP | | |
| SCALE 1"=200' | | | | | | |

LIGHB.DWG 8.5X11

TABLE 1-1

SUMMARY OF TOTAL METAL AND CYANIDES ANALYSES
WESTCHESTER CO. HEALTH DEPT. SAMPLING ON 2/2/83

| COMPOUND | CONCENTRATION (ug/l) | | | | | |
|-----------|----------------------|--------------|------------|------|------|------|
| | (1) | | | | | |
| | NYS AWQ STANDARD | | SAMPLE NO. | | | |
| | HUMAN HEALTH | AQUATIC LIFE | 3 | 4A | 6 | 7 |
| Iron | 300 | 300 | 300 | 340 | 700 | 580 |
| Copper | 200 | * | 90 | 100 | (20) | 70 |
| Zinc | 300 | 30 | (50) | (50) | (50) | (50) |
| Nickel | - | * | (10) | (10) | (10) | (10) |
| Cadmium | 10 | * | (2) | (2) | (2) | (2) |
| Chromium | 50 | * | (10) | (10) | (10) | (10) |
| Lead | 50 | * | (10) | (10) | (10) | (10) |
| Manganese | 300 | - | 70 | 30 | 520 | 70 |
| Cyanides | 100 | 5.2 | (10) | (10) | (10) | (10) |

1) Human health-based and aquatic life-based Ambient Water Quality (AWQ) Standards are for surface water (fresh).

* Aquatic life-based AWQ Standard or Guidance Value is dependent on water hardness.

(10) Less than Detection Limit of 10

TABLE 1-2

SUMMARY OF TOTAL METAL ANALYSES
NYSDEC SURFACE WATER SAMPLING ON 5/15/84

| COMPOUND | NYS AWQ STANDARD (1) | | CONCENTRATION (ug/l) | | | | | | DETECTION LIMIT |
|-----------|----------------------|--------------|----------------------|-------|-------|-------|--------|--------|--------------------|
| | HUMAN HEALTH | AQUATIC LIFE | 01 | 02 | 03 | 04 | 05 | 08 | |
| Arsenic | 50 | 190 | (10) | (10) | (10) | (10) | 550 | (10) | 10 |
| Antimony | 3(2) | - | (10) | (10) | (10) | (10) | (10) | (10) | 10 |
| Selenium | 10 | 1.0 | (10) | (10) | (10) | (10) | 237 | 91 | 10 |
| Thallium | 4(2) | 8 | (10) | (10) | (10) | (10) | (10) | (10) | 10 |
| Mercury | 2 | 0.2(2) | (0.4) | (0.2) | (0.2) | (0.4) | (0.2) | 0.2 | 0.2-0.4 |
| Beryllium | 3(3) | 11 or 1,100 | (1) | (1) | (1) | (1) | (1) | (1) | 1 |
| Cadmium | 10 | (3) | (10) | (10) | (10) | 11 | (10) | (10) | 10 |
| Chromium | 50 | (3) | (4) | (4) | (4) | (4) | 4.2 | 4 | 4 |
| Copper | 200 | (3) | (4) | (4) | (4) | 6.9* | 7,810* | 670 | 4 |
| Nickel | - | (3) | (15) | (15) | (15) | (15) | 610 | 508 | 15 |
| Silver | 50 | 0.1 | (3) | (3) | (3) | (3) | (3) | (3) | 3 |
| Zinc | 300 | 30 | 21* | (10)* | (10*) | 17* | 261 | 1,570* | 10 |

* Blank Corrected

- 1) Human health-based and aquatic life-based Ambient Water Quality (AWQ) Standards are for surface water (fresh)
 - 2) Guidance Value.
 - 3) Aquatic life-based AWQ Standard or Guidance Value is dependent on water hardness.
- (10) Less than Detection Limit of 10.

4566K

TABLE 1-3

SUMMARY OF TOTAL METAL ANALYSES
NYSDEC SEDIMENT/SLUDGE SAMPLING ON 5/15/84

| COMPOUND | GLOBAL MEDIAN SOIL CONCENTRATION(1) | DETECTION LIMIT | CONCENTRATION (mg/kg) | | | | | | |
|-----------|--|--------------------|-----------------------|-------|-------|-------|-------------|-------------|--|
| | | | 01 | 02 | 03 | 04 | 06 (Sludge) | 07 (Sludge) | |
| Arsenic | 6 | 0.5 | (0.5) | 0.65 | (0.5) | (0.5) | 27.5 | 5.0 | |
| Antimony | 1 | 0.5 | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | |
| Selenium | 0.4 | 0.5 | (0.5) | 1.8 | 0.61 | (0.5) | 7.55 | 13.0 | |
| Thallium | 0.2 | 0.5 | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | |
| Mercury | 0.06 | 0.1 | (0.1) | (0.1) | (0.1) | (0.1) | (0.1) | (0.1) | |
| Beryllium | 0.3 | 0.1 | (0.1) | (0.1) | (0.1) | (0.1) | (0.1) | (0.1) | |
| Cadmium | 0.35 | 1.0 | (1) | (1) | 1.2 | (1) | 3.1 | 1.6 | |
| Chromium | 70 | 0.4 | 7.5 | 8.6 | 21.9 | 16.9 | 223 | 5.7 | |
| Copper | 30 | 0.4 | 5.7* | 115 | 36.5 | 100* | 3,690* | 15,800* | |
| Nickel | 50 | 1.5 | 30.1 | 40.3 | 56.2 | 39.8 | 27,500 | 13,800 | |
| Silver | 0.05 | 0.3 | 0.30 | (0.3) | (0.3) | (0.3) | 0.81 | 0.70 | |
| Zinc | 90 | 1.0 | 22.3* | 28.2* | 37.3 | 39.9* | 8,310* | 9,500* | |

* Blank Corrected

1) Bowen (1979)

(0.5) Less than Detection Limit of (0.5).

4566K

TABLE 1-4

SUMMARY OF VOLATILE ORGANIC ANALYSES
 NYSDEC SEDIMENT/SLUDGE SAMPLING 5/15/84

510
10/15/84

| COMPOUND | CONCENTRATION (ug/kg) (1,2) | | | | | | |
|--------------------------|-----------------------------|----|-----|-------|-----|-------|--|
| | 01 | 02 | 03 | 04 | 06 | 07 | |
| Acetone | | | 190 | | | | |
| Trans-1,2-dichloroethene | | | 300 | 1,400 | | | |
| Trichloroethene | | | 30 | | 680 | 2,600 | |
| Vinyl chloride | | | | 2,700 | | | |
| Total xylenes | | | | | 42 | 7,100 | |
| Ethylbenzene | | | | | | 3,300 | |

- (1) Blank spaces in table indicate concentrations less than detection limit.
- (2) Detection limits are not shown here since they were not included in NYSDEC raw data package.

4566K

results to typical soil background levels and surface water sample results to New York State Ambient Water Quality Standards, several observations can be noted. Analyses for 12 of the 13 priority pollutant metals analyzed in the surface water samples consistently resulted in low concentrations (i.e., mostly less than detection limits); water samples from the septic tank (05) and sludge pit A (08) did contain elevated As, Se, Cu, Ni and Zn concentrations. Trace metals in sediment samples indicated similar trends, i.e., the 12 priority pollutants were essentially present at background levels (copper was slightly elevated). Sludge samples collected from Pits 4 (06) and 2 (07), however, contained elevated As, Se, Cd, Cr, Cu, Ni, Ag and Zn. EP toxicity tests for the two sludge samples resulted in concentrations below the allowable maximum EP toxicity concentration (and mostly less than detection limit). The results of trace metal analyses for NYSDEC samples basically confirm findings by the Westchester County Health Department that metals known to be in the leaching pits have apparently not reached Furnace Brook.

The results of VOA analyses on NYSDEC water samples show extremely elevated TCE levels in the septic tank (15,000 ppb) as well as a high concentration (190 ppb) in Pit 4 (see Table 1-5). Sediment and sludge samples also contained high levels of TCE; acetone and trans-1,2-dichloroethene were seen in the Brook sediments, and xylenes and ethylbenzene were detected in sludge samples collected from Pits 2 and 4 (Table 1-4). Consequently, the primary emphasis of the field investigation should be on volatile organics, especially chlorinated species such as TCE.

TABLE 1-5

SUMMARY OF VOLATILE ORGANIC ANALYSES
 NYSDEC SURFACE WATER SAMPLING 5/15/84

510
1043

| COMPOUND | CONCENTRATION (ug/l) (1,2) | | | | | |
|--------------------------|----------------------------|-----|----|----|--------|-----|
| | 01 | 02 | 03 | 04 | 05 | 08 |
| Acetone | | | | | | |
| Trans-1,2-dichloroethene | | | | 25 | | 16 |
| Trichloroethene | | 6.6 | 16 | 62 | 15,000 | 190 |
| Vinyl chloride | | | | | | |
| Total xylenes | | | | | | |
| Ethylbenzene | | | | | | |

- (1) Blank spaces in table indicate concentrations less than detection limit.
- (2) Detection limits are not shown here since they were not included in NYSDEC raw data package.